

## CASE STUDY

# Virtua Crushes Clinical and Operational KPIs

## With In-house, Integrated Communications Suite and ePCR

Serving two non-integrated counties, Virtual Health Patient Logistics struggled with inefficiencies. A tightly integrated dispatching solution was deployed in-house to help with response time, resource optimization, and cost reduction.

### The Opportunity

Virtua Health Patient Logistics (Virtua) is one of the largest health systems in New Jersey. Virtua handles 91,000 responses per year, which includes a mix of 911 and non-emergent transports, in a coverage area that spans two large counties and 1,000 square miles. The EMS/911 division has been in business since 1977. The Transfer Center was launched in 2019 and Medical Transport was added shortly after in 2020. With 40 response vehicles and 450 employees, the organization manages its own resource identification, dispatching, and deployment for EMS units, as well as dispatching for its medical transport units.

In 2016, Virtua realized the need to control its resources and data in-house. The two counties within Virtua's response area were not integrated, resulting in resource inefficiencies. Obtaining in-house control would allow Virtua to create system-wide transparency while increasing availability and accuracy of critical performance analytics. It would also bring predictive dynamic deployment and the removal of county borders. Besides response time, bringing resource management in-house would help call takers better determine which type of personnel and equipment to send to the call.

The sheer size and volume of the organization's response area made it clear that Virtua needed to upgrade to a dynamic, multi-county deployment system to optimize response. The organization had limited access to precise, real-time response data, which restricted the extent to which they could track, share, and react to the information. As a result, it was



hard to interpret performance metrics. Virtua also required software tools to help make patient flow and resource allocation throughout the healthcare system as efficient as possible. For example, units were dispatched by two disparate communication centers. Available medics could be a block away from a call, but because that call happened in a different county jurisdiction, a more distant unit from that county could have been deployed.

### The Solution

Because Virtua had been using RescueNet® Dispatch since 2017, implementing integrated, complementary RescueNet solutions ensured there would be a seamless flow of information as the organization evolved. Not only could Virtua achieve its goal of managing all resources in-house, but the tight integration between the tools could enable Virtua to access consolidated data and information for its entire system.

The first step was to implement RescueNet Dispatch Pro, enabling a rapid transition to dynamic deployment and GPS-based dispatching for the entire system,

regardless of county. RescueNet @Work, ZOLL Respond, and Mobile Care Connect were rolled out next, all by 2021. Field crews and operations staff use ZOLL Respond and RescueNet @Work to save time, reduce radio traffic, and navigate quickly to patients using real-time GPS data. Mobile Care Connect enables more than 1,000 users across all Virtua hospitals to request (and view the status of) transfers through a web-based interface, reducing back-and-forth phone calls and eliminating faxes. Virtua has most recently implemented ZOLL Care Exchange and is expecting to gain a significant boost in efficiency from the HL7 data exchange platform, accessing complete hospital EMR and patient outcome information very shortly after patient transfer.

### The Results

Since initiating these efforts in 2017, Virtua has gone from a standalone, hospital-based 911 system to a fully integrated patient logistics system. Efficiencies and performance improvements have been achieved across the health system. The Transfer Center is connected with Medical Transport Dispatch to ensure the fastest, appropriate response and seamless movement of patients around the Virtua health system. Virtua is now very transparent with its data, which has helped manage its complex patient logistics division.

The organization has leveraged multiple ZOLL Data products, maximizing each to:

- Reduce pick-up times for medical transports
- Increase Transfer Center utilization across their complex health system
- Increase network integrity, monitoring every patient leaving their system
- Improve patient flow within their system
- Increase collaboration and transparency throughout their system
- Increase crew safety through real-time monitoring of the scene
- Reduce chute times and response times for MICU (Mobile Intensive Care Units)
- Optimized resource utilization for MICU

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***The ability to control our dispatch and to have transparency across the healthcare system has led to a significant cost savings and a significant increase in previously unrealized revenue.***

– Jim Newman,  
Vice President of Patient Logistics

### Results highlighting the impact of implementing an integrated ZOLL Data Systems solution suite:



#### Response Time

“Level Zero” transfer request to arrival time is within 30 minutes



#### System Growth

Launched “Hospital at Home,” an innovative program that provides in-patient care levels to patients as they heal from the comfort of their own house



#### Hospital Spend

Reduced expenses by \$4 million

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